

EVENT BUILDER INTEGRATION

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EVB proxy

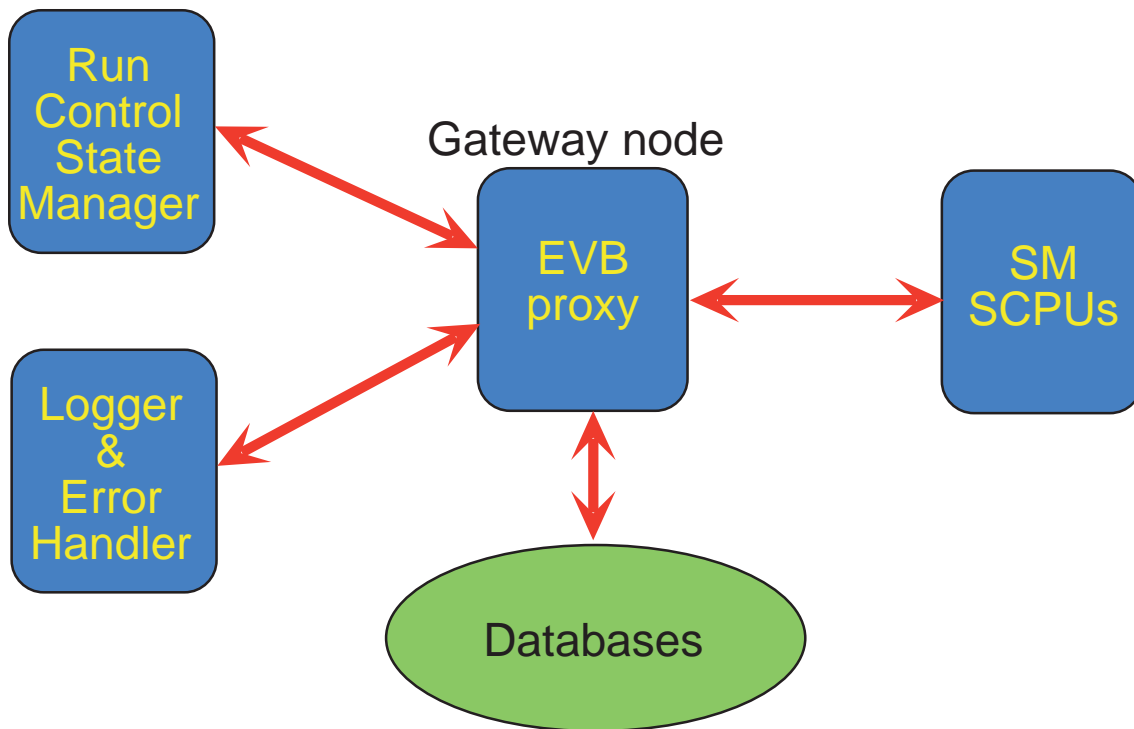
- Overview
- Components

RC state machine

- Message contents
- Proxy actions for transitions

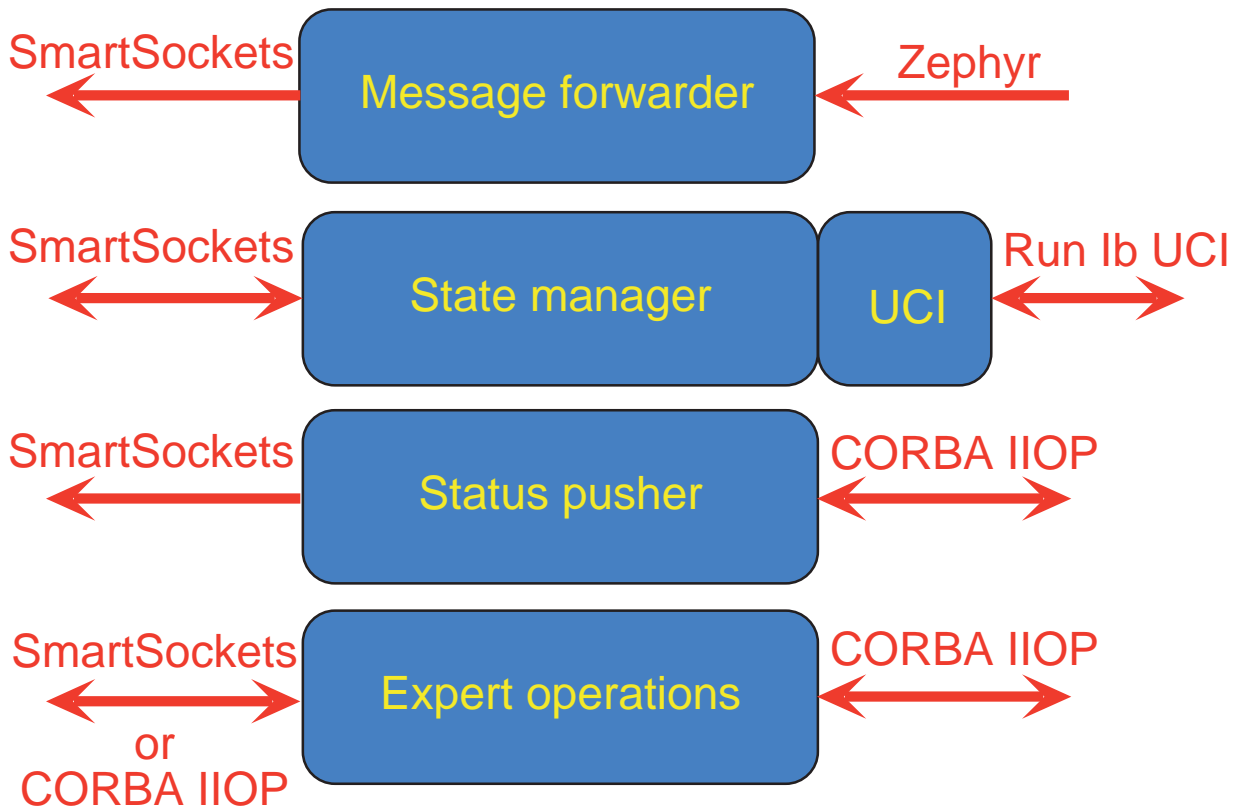
Summary

The EVB Proxy



- Why the intermediate step?
 - At least for now, event builder CPUs are on a private network, so they need a gateway anyhow.
 - Keep DB code off VME CPUs

Proxy close-up



Message Forwarder

Zephyr client

- Zephyr (simple publish/subscribe protocol) already used for EVB messages
- Pick up messages published by EVB CPUs (strings with time-stamp and prefix)
- Activated by incoming messages

SmartSockets publisher

- Reformats messages and adds new time-stamp
- Publishes using standard DAQ message-logging package

Data required

- Map of Zephyr prefixes to message ID numbers and severity codes

Status

- Already have Zephyr client.

State Manager

Maintains state for each partition

- Accepts Run Control State Manager commands
- Translates RC commands to UCI commands (UCI was Run IB RC interface)
- Most translations are trivial – just pass along partition number with command
- Exception: transition to Active state (start of a run).
 - Need readout list, run type

Data structures

- SCPU and VRB entries in hardware database
- Local database for SM node name

Status

- Java UCI under construction.

Status pusher

At regular intervals

- Reads statistics from SM, SCPUs
- Reformats and publishes them for RC
- Interval Δt set by RC command

Information published

- Δt (in seconds)
- Events sent to L3 during Δt
 - total and per partition
- Last event number for each partition
- Run active or not for each partition
- The State Manager state per partition

Data required

- IORs, node names for SM and SCPUs

Status

- CORBA server for SM exists.

Expert Operations

Perform rare or dangerous operations

- Rebooting CPUs
- Reporting the detailed state of software
 - tasks
 - sockets
 - semaphores
 - data buffers
- Manual flushing of event data

Data required

- IORs, node names for SM and SCPU's

Status

- CORBA server for SM exists

RC Message Content

Misc

- New partition – partition no.

State transitions

- Setup, Config, End, Halt, Abort, Pause, Resume – partition no.
- Activate
 - partition no.
 - run type
 - "readout list", pairs of
 - + VRB card name
 - + VRB channel mask

Proxy transition actions

Actions other than changing the state

Config

- UCI Grand Finish (delete partition)
- UCI Grand Init (define partition)

Activate

- UCI Begin Run

Halt, End

- UCI End Run

Abort

- UCI End Run (if a run is active)

Summary

Proxy data requirements and structure are now well defined

Work is starting on a toy Run Control implementation

Need to plan details for SmartSockets version

CORBA server for the Scanner Manager is essentially complete